Tuesday, 11/6/2007 1:38:08 PM Kim Johnston **Process Sheet** : SUPPORT (412 AFT) **Drawing Name** : CU-DAR001 Dart Helicopters Services Customer Job Number : 35577 **Estimate Number** : 11060 : D28961 **Part Number** P.O. Number · D2896 REV B **Drawing Number** : 11/6/2007 This Issue : N/A Project Number : NC Prsht Rev. MACHINED PARTS Drawing Revision First Issue : // Material **Previous Run** : 33471 Each : 12/13/2007 **Due Date** Written By Checked & Approved By Reformat; Added P/O; Added mask hole KJ Comment Est Rev:C As per Rev B 07-04-16 JLM **Additional Product** Job Number: Description: Seq. #: **PURCHASING** 1.0 Comment: PURCHASING Issue P/O: 4996 Description: D6104-011 Material: 17-4 PH SS (AMS 5643 OR AISI 630) as per Dwg D6104 Material release note required. 6.50 ROUN Blank size makes (2) D2896-1 7-4 SS Roun@bar 6.50"OD 2.0 Comment: Qty.: 1.0000 Each(s)/Unit Total : 20.0000 Each(s) Support PACKAGING RESOURCE #1 PACKAGING 1 3.0 Comment: PACKAGING RESOURCE #1. Recieive & Inspect for Transit Damage Ensure Material Release Note is attached Comment: MORI SEIKI CNC LATHE LARGE Turn blank for Haas as per Folio FA167

Dart Aerospace Ltd

W/O: WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
		*					

Part No: D2896-1 PAR #: No Fault Category: Prod Machinal PAS NCR: (Ves) No DQA: D Date: 2015/09

QA: N/C Closed: Date: 05/65/60

NCR: 3	3557	7 W	ORK ORD	ER NON-CONFORMANC	E (NCR)			;
DATE	STEP	Description of NC Section A	Initial Chief Eng	Corrective Action Section B Action Description Chief Eng	Sign &	Verification Section C	Approval Chief Eng	Approval QC Inspector
: d8. v5. o7	9	Batch was engraved as BXXXX. Local area was fixed with 0.007" deep pocket and re-engraved	02.05.02 Par	Part OK	od.cs.or	restestas	8.05.02 pe	
oslos lo4	9	support # H dimension AC 3.550-3.560 is 3.543	QS1642 QS1642	Pont ox.	J.L 08/05/04	(02 03.63 02 03.63 03) 042	00000
							•	

NOTE: Date & initial all entries

Tuesday, 11/6/2007 1:38:08 PM Date: Kim Johnston User: **Process Sheet** Drawing Name: SUPPORT (412 AFT) Customer: CU-DAR001 Dart Helicopters Services Part Number: D28961 Job Number: 35577 Job Number: Description: Seq. #: Machine Or Operation: INSPECT ALL DIM TO DIM SHEET QC1 5.0 Comment: INSPECT ALL DIM TO DIM SHEET HAAS CNC VERTICAL MACHINING #1 6.0 Comment: BAND SAW Machine as per Folio FA167 Tumble & Deburr INSPECT ALL DIM TO DIM SHEET QC1 7.0 Comment: INSPECT ALL DIM TO DIM SHEET SECOND CHECK 8.0 QC8 Comment: SECOND CHECK HAND FINISHING1 HAND FINISHING RESOURCE #1 9.0 Comment: HAND FINISHING RESOURCE #1 Mask Ø0.625" and face and bore as per Detail D and note 4 hole prior to paint POWDER COATING 10.0 M 107550 Comment: POWDER COATING Powder Coat White Gloss (Ref: 4.3.5.2) as per QSI 005 4.3 INSPECT POWDER COAT/CHEMICAL CONVE QC3 11.0 Comment: INSPECT POWDER COAT SPRAY PAINTING 12.0 Comment: SPRAY PAINTING Prime Bore as per QSI 005 4.2. **INSPECT SPRAY PAINT** QC14 13.0 Comment: INSPECT SPRAY PAINT

Form: rorocess

W/O:		WORK ORDER CHA	NGES				
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No:	_ PAR #:	Fault Category:	NCR: Yes	lo DQA :	Date:
			QA: N/	C Closed:	Date:

NCR:		WORK ORDER NON-CONFORMANCE (NCR)									
		Description of NC		Corrective Action Section B			Annroyal				
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Verification Section C	Approval Chief Eng	Approval QC Inspector			
·											
	1										

NOTE: Date & initial all entries

Date: Tuesday, 11/6/2007 1:38:08 PM User: Kim Johnston **Process Sheet** Drawing Name: SUPPORT (412 AFT) Customer: CU-DAR001 Dart Helicopters Services Part Number: D28961 Job Number: 35577 Job Number: Description: Seq. #: Machine Or Operation: PACKAGING RESOURCE #1 PACKAGING 1 14.0 Comment: PACKAGING RESOURCE #1 Identify and Stock Location: LG 15.0 QC21 Comment: FINAL INSPECTION/W/O RELEASE Job Completion

Form: mrocess

Dart Ae	rospac	e Ltd						
W/O:			W	ORK ORDER CHANGES				: .
DATE	STEP	PROCEDURE CHANGE				Date Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
					ļ ·			
						,		
Part No	· •:	PAR #:	Fault Cate	egory: NC	R: Yes	No DQA :	Date: _	
	•				QA: N	/C Closed:	Date: _	
NCR:		V	VORK ORD	ER NON-CONFORMANCI	E (NCR	3)		
		Description of NC		Corrective Action Section B		Verification	Approval	Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspector
	,	·		•				
		,						
				·				

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	35577
Description: Support	Part Number:	D2896-1
Inspection Dwg: D2896 Rev. B		Page 1 of 1

				Rec	orded Actu	ual Dimensi	ions		
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	Ву	Date
I				Lathe Sect	ion				
A	3.480	3.485		3.484	3.484	3-485	3.485		
В	3.990	4.010		3-995	3-995	3.997	3.995		
C	3.825	3.845	-	3-835	3-835	3,835	3.835		
Ď	0.718	0.738		778	.708	1728	1728		
E	0.090	0.110		, 600	,100	100	.106		
F	3.705	3.725		3.719	3,715	3,715	3.715		
Ğ	1.360	1.380		1,372	1,372	1.372	1.372		
H	1.250	1.260		1,255	1-255	1.255	1.255		
i	6.490	6.510		6.500	6.497	6.497	6-497		
J	0.022	0.042		1032	-032	.032	1032		
К	0.240	0.260		1250	,250	.250	,250		
L	0.107	0.127	<u> </u>	1117	(11)	.117	0117		
М									
		· · · · · · · · · · · · · · · · · · ·	1	HAAS ² Sect	ion 3	H	5/		
AA	2,152	2.172	7.162	2.166	2.171	2.167	2,171		
AB	2.340	2.360	2.350	2.352	2358	2.344	2.354		
AC	3.550	3.560	3.553	3.558	3.556	3,443	3.555		
AD	3.770	3.790		3.780	3.778	3.775	3.778		
AE	0.065 x 0.315	0.085 x 0.335	.015/.325			-075/325	.075/.325		
AF	1.42	1.48	1.450	1.454	1.447	1.451	1.453		
AG	0.833	0.853	.852	. 846	. 850	. 838_	848		
AH	2 0.240	0.260	.160	-250	-250	-250	-250		
AI	0.261	0.266	.761	.261	-261	-261	-261		
AJ	0.189	0.194	.189	.189	189	-189	-189		
AK	1.990	2.010	7.008	1.990	2.008	1.999	2.001		
AL	0.625	0.630	.626	-627	.627	.627	-627		
AM	101.75	105.75	103.75	103.75	103.75	103.75	103.75		<u> </u>
AN	0.053	0.073	.063	- 063	.063	- 063	-063		
AO	0.926	0.946	. 445	946	- 946	938	. 944		
	Fneu	re that Ø0.625'	' bore is	perpendici	ular to 1.7	64" bore w	ithin 0.00	5"	
						1			
	Acce	pt/Reject		i					

_	1	·
Measured by: RG,	151	Audited by SN
Date: 08/64/02/	08/05/04	Date: 02/05/05

Rev	Date	Change	Revised by	Approved
Α	02.12.13	New Issue	KJ/RF	
В	04.05.27	Dimension AE changed	KJ/RF	
С	06.11.22	Note added to HAAS section	KJ/JLM ,	
D	07.04.16	Dimsheet updated per Dwg Rev. B	KJ/JLM	Cidl

DART AEROSPACE LTD	Work Order:	35577
Description: Support	Part Number:	D2896-1
Inspection Dwg: D2896 Rev. B		Page 1 of 1

	•		Red	Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	Ву	Date
				Lathe Sect	ion				
Α	3.480	3.485		3.484	3489	3.485	3.485		
В	3,990	4.010		3-995	3.993	3.997	3.995		
С	3.825	3.845		3-835	3.835	3,835	_ 3~835 __ _		
D	0.718	0.738		798	1728	,728	1728		
Е	0.090	0.110		, 660	,100	1000	.100		
F	3.705	3.725		3:715	3,715	3,715	3.715		
G	1.360	1.380		1,377	1.372	1.372	1.377		
Н	1.250	1.260		11255	1.255	1.755	1-255		
ı	6.490	6.510		6.500	6.497	6.497	C. 497		
J	0.022	0.042		2837	-032	.032	1032		
K	0.240	0.260		- 250	1350	. 350	255		
L	0.107	0.127		1117	(11)	.117	1117		
М	· · · · · · · · · · · · · · · · · · ·								
			· · · · · · · · · · · · · · · · · · ·	HAAS Sect	ion				
AA	2.152	2.172		2.355	<u> </u>				
AB	2.340	2.360		2.355					
AC	3.550	3.560		3.556					
AD	3.770	3.790		3.784					
AE	0.065 x 0.315	0.085 x 0.335		075x325					
AF	1.42	1.48		1-454					
AG	0.833	0.853		-8714					
AH	0.240	0.260		.250					
Al	0.261	0.266		-26					
AJ	0.189	0.194		-189					
AK	1.990	2.010		1.995					
AL	0.625	0.630		.627					-
AM	101.75	105.75		103.75			1-1-1		
AN	0.053	0.073		.063					· · · · · · · · · · · · · · · · · · ·
AO	0.926	0.946		. 944					
		re that Ø0.625"	hore is		ular to 1 76	64" bore w	ithin 0.00	5"	
			POIE 19	Jei perialei		- DOIG W	1611111 0.000		
	Acce	pt/Reiect		1		1			

Measured by: Rep | S-L | Audited by | S-L | Date: 08/05/05

Rev	Date	Change	Revised by	Approved
Α	02.12.13	New Issue	KJ/RF	
В	04.05.27	Dimension AE changed	KJ/RF	
С	06.11.22	Note added to HAAS section	KJ/JLM	1
D	07.04.16	Dimsheet updated per Dwg Rev. B	KJ/JLM 🔣	Cull
	01.01.10	The state of the s	- ' 	

DART AEROSPACE LTD	Work Order:	35511
Description: Support	Part Number:	D2896-1
Inspection Dwg: D2896 Rev. B		Page 1 of 1

	Min	Min Max G		Re					
Dim			Go/No Go Gauge	1	2	3	4	Ву	Date
			•	Lathe Sec	tion				
Α	3.480	3.485		3.484	3484	3.485	3.485		
В	3.990	4.010		3-995	3.995	3.997	3.995		
С	3.825	3.845		3-835	3.835	3.835	3-835		
D	0.718	0.738		7795	.728	1728	7728		
E	0.090	0.110		, 600	,100	100	1100		
F	3.705	3.725		3.719	3,715	3,715	3.715		·
G	1.360	1.380		1,377	1.372	ル37 ス	1.377		
Н	1.250	1.260		1,255	1.255	1.355	1.755		
1	6.490	6.510		6.500	6.497	6.497	C. 497		
J	0.022	0.042		2832	-637	. e 7 2	1032		
K	0.240	0.260		- 250	1250	. 950	2350		
L	0.107	0.127		1117	(11)	117	1117		
М									
				HAAS Sect	tion				
AA	2.152	2.172				•			
AB	2.340	2.360							
AC	3.550	3.560							
AD	3.770	3.790							
AE	0.065 x 0.315	0.085 x 0.335							
AF	1.42	1.48							
AG	0.833	0.853							
АН	0.240	0.260							
AI	0.261	0.266							
AJ	0.189	0.194							
AK	1.990	2.010							
AL	0.625	0.630							
AM	101.75	105.75							
AN	0.053	0.073							
AO	0.926	0.946							
	Ensu	re that Ø0.625"	bore is	perpendic	ular to 1.76	64" bore w	ithin 0.00	5"	
		pt/Reject		,					
	ACCE	huizeleer		1	l				

Measured by: KG,		Audited by	
Date: e 8 / 6 1/2 / 10 1/2	ı	Date:	
, ,			

Rev	Date	Change	Revised by	Approved
Α	02.12.13	New Issue	KJ/RF	
В	04.05.27	Dimension AE changed	KJ/RF	
С	06.11.22	Note added to HAAS section	KJ/JLM ,	1
D ·	07.04.16	Dimsheet updated per Dwg Rev. B	KJ/JLM 🔏	Cidl

DART AEROSPACE LTD	Work Order:	35577
Description: Support	Part Number:	D2896-1
Inspection Dwg: D2896 Rev. B		Page 1 of 1

				Red	Recorded Actual Dimensions				
Dim	Min	Min Max	Go/No Go Gauge	1	2	3	4	Ву	Date
				Lathe Sec	tion				
Α	3.480	3.485		3.484	3.484	3.485	3.485		
В	3.990	4.010		3-995	3.995	3.997	3.995		
С	3.825	3.845		2-835	3.835	3835	3-835		
D	0.718	0.738		798	1728	1728	1728		
E	0.090	0.110		, 600	106	100	1100		
F	3.705	3.725		3,715	3,715	3,715	3.715		
G	1.360	1.380		1,377	1,372	1.372	1.371		
Н	1.250	1.260		1,255	1.755	1.355	1.255		
Ī	6.490	6.510		6.500	6.497	6.497	C. 497		
J	0.022	0.042		2837	1632	.032	10 52		
K	0.240	0.260		- 250	1650	. 750	2350		
L	0.107	0.127		-117	(11)	.117	0117		
М			******						
				HAAS Sect	tion				
AA	2.152	2.172			1				
AB	2.340	2.360							
AC	3.550	3.560							
AD	3.770	3.790							
AE	0.065 x 0.315	0.085 x 0.335							
AF	1.42	1.48							
AG	0.833	0.853							
AH	0.240	0.260							
ΑI	0.261	0.266							
AJ	0.189	0.194							
AK	1.990	2.010							
AL	0.625	0.630							
AM	101.75	105.75							
AN	0.053	0.073							
AO	0.926	0.946	· · · · · · · ·						
	Ensu	re that Ø0.625"	bore is	perpendici	ular to 1.70	64" bore w	ithin 0.00	5"	
					1				
	Acce	nt/Reiect		,				1	

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Measured by: パダノ	Audited by	
Date: 68 /614 /62	Date:	

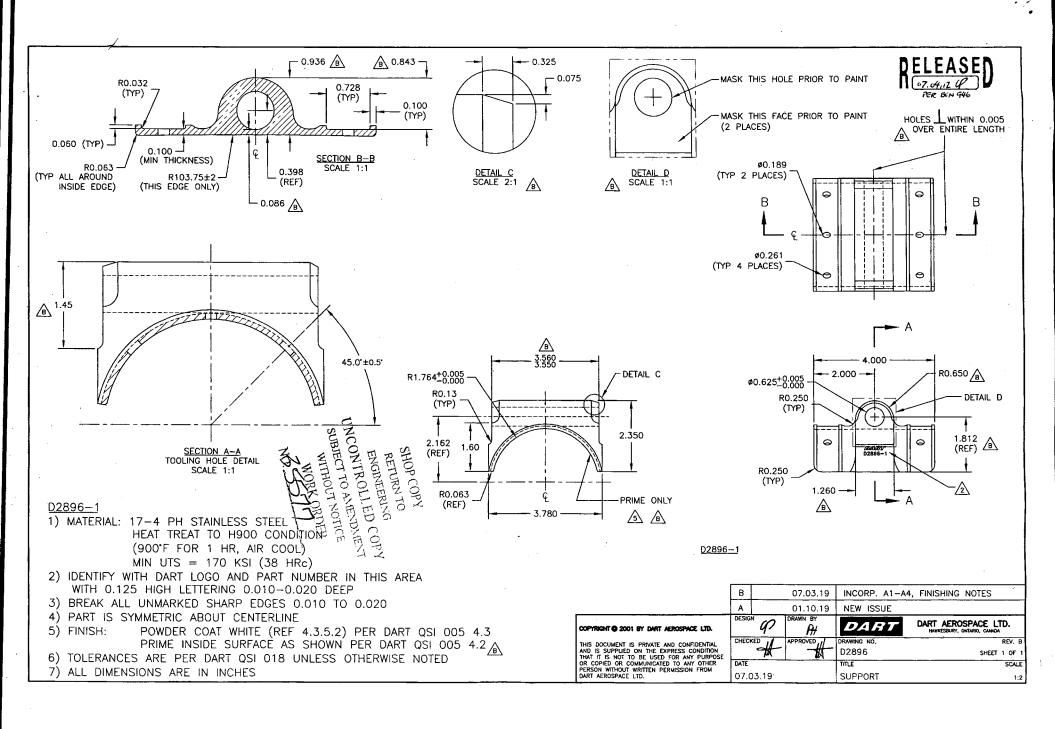
Date	Change	Revised by	Approved
02.12.13	New Issue	KJ/RF	
04.05.27	Dimension AE changed	KJ/RF	
06.11.22	Note added to HAAS section	KJ/JLM	1
07.04.16	Dimsheet updated per Dwg Rev. B	KJ/JLM 🔏	Cull
	02.12.13 04.05.27 06.11.22	02.12.13 New Issue 04.05.27 Dimension AE changed 06.11.22 Note added to HAAS section	02.12.13 New Issue KJ/RF 04.05.27 Dimension AE changed KJ/RF 06.11.22 Note added to HAAS section KJ/JLM

DART AEROSPACE LTD	Work Order:	35577
Description: Support	Part Number:	D2896-1
Inspection Dwg: D2896 Rev. B		Page 1 of 1

		-	Red						
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	Ву	Date
	L		.	Lathe Sect	tion				
Α	3.480	3.485		13.484	3.489	3.485	3.485		
В	3.990	4.010		3-995	3.993	3.997	3.995		
С	3.825	3.845		2-135	3.835	3.835	3-835		
D	0.718	0.738		775	.7.28	1728	[1728]		
E	0.090	0.110		, 66.50	106	100	-100		
F	3.705	3.725		3.719	3,715	3,715	3.715		
G	1.360	1.380		1.377	1/372	1.37X	1-371		
Н	1.250	1.260		1,255	1.255	1.755	1.255		
ļ	6.490	6.510		6.500	6.497	6.497	C. 497		
J	0.022	0.042		2837	2032	.072	1032		
K	0.240	0.260		- 250	1250	. 950	, 250		
L	0.107	0.127		1117	(11)	117	0117		
М									
				HAAS Sect	tion				
AA	2.152	2.172		1					
AB	2.340	2.360							
AC	3.550	3.560							
AD	3.770	3.790							
AE	0.065 x 0.315	0.085 x 0.335							
AF	1.42	1.48		1,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
AG	0.833	0.853							
AH	0.240	0.260							
ΑI	0.261	0.266			-				
AJ	0.189	0.194							
AK	1.990	2.010							
AL	0.625	0.630							
AM	101.75	105.75							
AN	0.053	0.073							
AO	0.926	0.946							
		re that Ø0.625"	bore is	perpendici	ular to 1.76	64" bore w	ithin 0.00	5"	-
		pt/Reject		-					

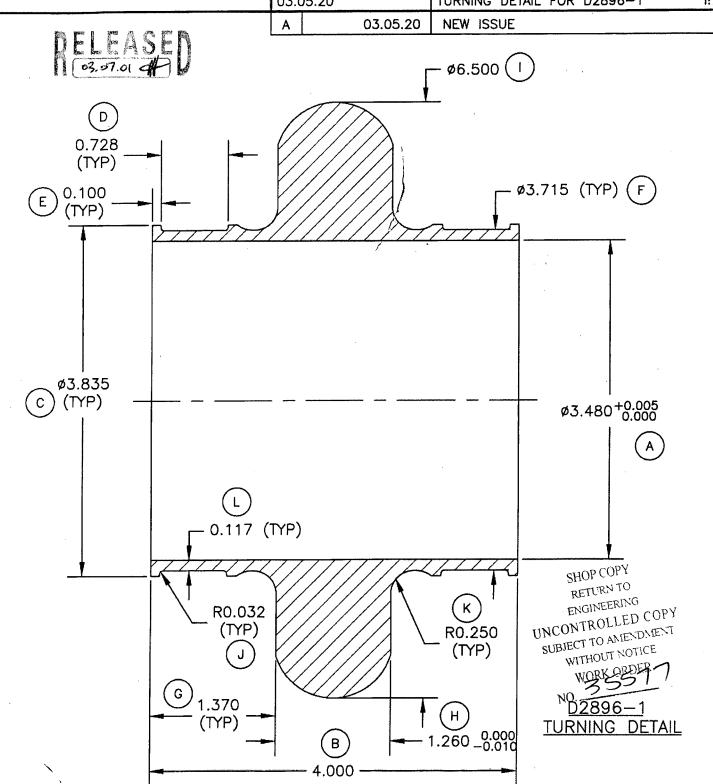
Measured by: 1297,]	Audited by	
Date: 6-8 /5 1/2]	Date:	

Rev	Date	Change	Revised by	Approved
Α	02.12.13	New Issue	KJ/RF	
В	04.05.27	Dimension AE changed	KJ/RF	
С	06.11.22	Note added to HAAS section	KJ/JLM ,	1
D	07.04.16	Dimsheet updated per Dwg Rev. B	KJ/JLM 🖟	Gul





DRAWN BY DESIGN DART AEROSPACE LTD K TH' HAWKESBURY, ONTARIO, CANADA CHECKED # DRAWING NO. REV. A APPROVED **DSK 080** SHEET 1 OF 1 SCALE DATE TITLE 03.05.20 TURNING DETAIL FOR D2896-1 1:1



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CERTIFICATE OF TEST

	A Drusson of Gracible Materials Corporation N	EW YORK 13201	OLITHI IOM	I have the Reserve	
SOL	A M CASTLE, INC	S H *	n M CASTLE, INC.		OUR ORDER NO. ドラー11023ーアーロ
D T O	3400 N WOLF RD		26800 HILES ED BEDFORD HEIGHTS OF	1 441,46 03	DATE 06/08/07
-		CUSTOMER REQ. # DISTRICT	91. M. A M. PT M. S T M.	SHIPPED FROM	SYRACUSE
	10-30746 DESCRIPTION OF MATERIAL		<u>B PARSONS</u>		SINUCUSE.
	CRU 17-4PH RT A IA ANC 3174-02 REV 26 ANS-56430 (EX SURF)		SIZE 6.500 T630 ASTH-A564-0 BI 630 UNS-S174	4 T630	
	HEAT NO.		ZHEMICAL ANALYSIS		
	A18738 C MN .045 .36		SI / NI CR . 53 4.09 15.40	HO CU C	B TA 8 .010
			DATE IAC	STLE METALS CO RCVD OVENEY TO	
(QUANTITY HEAT NO.		MECHANICAL PROPERTIES		
		TENSILE PSI YL			HARDNESS BHN 3437 345
	CAPABILITY HACRO TEST OK FERRITE 1 % MAGNAFLUX F/S = 0/0 REDUCTION RATIO: 7.6	204,150 1	900 DEG. F 1 H 79,610 12.9		BHN 415
	HATERIAL SOLUTION TRAIRCODLED. CRUCIBLE HATERIALS CHATERIAL INGOT CAST. NAFTA - YES			30 HINS AT TEM	TERATURE -
	MATERIAL FIREE FROM MERCURY CONTAMIN NO WELO REPAIR PERFORMED MATERIAL MELTED IN U.S.A. HAN	NATION AT TIME OF SHIPMENT UFACTURED BY THE		CIBLE SPECIALT	UI BLATEM Y
\	SWORN TO AND SUBSCRIBE	D BEFORE ME THIS	WITH ABOV SPECIFICATI CERTIFIED	MATERIAL WAS MANUFACTURE E SPECIFICATIONS AND IS IN ON REQUIREMENTS. CRUCIBLE MATERIALS CORPORACTING BY AND THROUGH ITS SI	CONFORMANCE WITH TH
		NOTARY PUBLIC	BY:	OUADITY ASSURANCE REPRES	

